

NOTE

Alveotिंगis grossocerata Osborn and Drake (Hemiptera: Tingidae):
First Host Records of a Rarely Collected Lace Bug

Lace bugs most familiar to entomologists tend to be species that feed on the lower surfaces of tree and shrub leaves, often causing substantial chlorosis. Members of the well-known genus *Corythucha* Stål feed in this manner. Not all North American lace bugs, however, have such habits. Exceptions include the mainly stem-feeding and infrequently collected *Melanorhopala clavata* (Stål) on goldenrod (*Solidago* spp.) (personal observation) and *M. froeschneri* Henry and Wheeler on trumpet-creeper (*Campsis radicans* (L.) Seem. ex Bureau (Henry and Wheeler 1986, Journal of the New York Entomological Society 94: 235-244). Certain herb-associated lace bugs, such as *Hesperotingis illinoiensis* Drake on *Penstemon* spp., feed primarily on basal leaves that can be obscured by other vegetation or by litter (Wheeler 1994, Proceedings of the Entomological Society of Washington 96: 533-536); such species, and any chlorosis they cause, are not readily noticed on their hosts. McAtee (1923, Proceedings of the Entomological Society of Washington 25: 143-151) noted that rarely collected tingids afford collectors the opportunity to discover host-plant relationships and to add other new biological information.

Alveotिंगis grossocerata is a seldom-collected, poorly known lace bug of distinctive habitus. This broadly oval, or ovoid, strongly convex species is grayish or dark brown, with the hemelytra a shining brown or black, the antennae stout or swollen, and the areolae whitish; the long, clavate third antennomere is covered with coarse, black setae. Both macropterous (3.4 mm long) and brachypterous (about 2.8 mm) forms are known, the coleopteroid, short-winged form being more often collected (Blatchley 1926, Heteroptera of Eastern North Amer-

ica, Nature Publishing, Indianapolis, 1116 pp.; Torre-Bueno 1931, Bulletin of the Brooklyn Entomological Society 26: 149). The coleopteroid form is illustrated by Drake and Davis (1960, Entomologica Americana 39: 1-200).

Described from a specimen collected in Maine in 1913 (Osborn and Drake 1916, Ohio Biological Survey Bulletin 8(Vol.2, No.4): 217-251), *A. grossocerata* has since been reported from Connecticut, Kansas, Massachusetts, New Hampshire, New York, and Pennsylvania (Froeschner 1988, pp. 708-733. In Henry, T.J. and R.C. Froeschner, eds., Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States. Brill, Leiden). The Iowa record of Slater and Baranowski (1978, How to Know the True Bugs, W.C. Brown, Dubuque, Iowa, 256 pp.) likely pertains to *A. brevicornis* Osborn and Drake or to *A. minor* Osborn and Drake, both of which were described from that state (Osborn and Drake 1917, Ohio Journal of Science 17: 295-307). The only available information on the bionomics of this tingid consists of its collection from a rock on a Massachusetts lake shore, from a thistle in New York, and from grass by sweeping in Connecticut (Bailey 1951, Entomologica Americana 31: 1-140).

I became aware of *A. grossocerata* in 1994 during fieldwork with T.J. Henry and I.M. Kerzhner in Rockingham Co., Virginia. The latter heteropterist found an adult on the ground near a colony of pussytoes (*Antennaria* sp.; Asteraceae) on a dry shale slope. Our immediate search of *Antennaria* at this site yielded eight additional adults and two nymphs, and I collected additional specimens there later that year. To determine if other populations of this lace bug use *Antennaria* spp. as hosts, I sampled

pussytoes in five other mid-Appalachian shale barrens and shale outcrops, with the following positive results.

Collection records.—MARYLAND: Washington Co., Sideling Hill Wildlife Management Area, Boy Scout shale barren, E. of Little Orleans, 12 June & 2 July 1994, AGW (2 adults). VIRGINIA: Rockingham Co., George Washington National Forest, For. Service Rd. 87 W. of Fulks Run, 11 June, 25 June, & 6 Aug. 1994, AGW (16 adults, 3 nymphs); Shenandoah Co., Short Mountain shale barren, SE of Mount Jackson, 7 Aug. 1994, AGW (2 adults).

Maryland and Virginia are new state records for *A. grossocerata*. Voucher specimens are deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.

All adults found at the three sites were brachypters. Nymphs and most adults were collected on shale barren pussytoes (*Antennaria virginica* Stebbins) at the Rockingham Co., Va., site; several adults might have been on foliage of co-occurring plantain pussytoes (*A. plantaginifolia* (L.) Richardson). *Antennaria virginica* was the host at the other two sites. Only slight chlorosis was seen on upper surfaces of infested leaves. The presence of last-instar nymphs

on 11 June and 6 August suggests that this lace bug is bivoltine.

Alveotigis grossocerata might be restricted to developing on *Antennaria* spp. or other genera of the composite tribe Inuleae. Although it is a wide-ranging species that has been found in nonshale habitats, this tingid seems characteristic of mid-Appalachian shale barrens. Discovery of its host plants should facilitate the accumulation of additional biological information. Yet even with the knowledge that *Antennaria* spp. serve as hosts, *A. grossocerata* is difficult to collect or observe in colonies of these stoloniferous, mat-forming herbs with spreading, rather than erect, basal leaves.

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A.G. Wheeler, Jr., *Department of Entomology, Clemson University, Clemson, SC 29634, U.S.A. (e-mail: awhlr@clemson.edu)*.